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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,187	10/16/2000	Tatsuya Seshimo	Q61335	8574

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[REDACTED] EXAMINER

HUFFMAN, JULIAN D

ART UNIT	PAPER NUMBER
2853	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/688,187	SESHIMO ET AL.
	Examiner Julian D. Huffman	Art Unit 2853 

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 21 August 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-19 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-6,9-13 and 15-19 is/are rejected.

7) Claim(s) 7,8 and 14 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 16 October 2000 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>9</u>	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 2 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Cook (U.S. 6,155,664).

Cook discloses an ink jet recording apparatus comprising an ink jet recording head (element 2) for receiving supply of ink from an ink cartridge (element 8) provided with storage means (element 14) for storing data for determining compatibility of a recording apparatus, and control means (36) for determining compatibility of ink when the head is to be filled with ink after it is mounted (column 7, lines 40-44 and column 8, lines 1-6), based on the data in the storage means and executing print operation, wherein:

if compatibility to an ink cartridge cannot be confirmed when the ink cartridge is mounted, the recording apparatus generates a caution and awaits input of a continuation instruction by a user to execute a subsequent operation (fig. 3, column 8, lines 46-50).

With regards to claim 15, Cook discloses a method of determining compatibility of ink based on data stored in storage means of an ink cartridge for supplying ink to a recording head of an ink jet recording apparatus, the method comprising the steps of:

generating a caution if compatibility to an ink cartridge cannot be confirmed when the ink cartridge is mounted; and

awaiting input of a continuation instruction by a user to execute a subsequent operation (fig. 3, column 8, lines 46-50).

With regards to claim 2, Cook discloses that the compatibility check may be performed when a refilling operation is initiated (column 8, lines 1-3). Cook also teaches that periodic refilling of the printhead is performed after the initial supply in the printhead's reservoir is depleted (column 1, lines 29-34). Since periodic refilling will occur after the printhead's reservoir becomes substantially depleted, and a compatibility check is performed when a refilling operation is initiated, Cook teaches the invention of claim 2.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cook in view of Myung (U.S. 6,217,144 B1).

Cook discloses everything claimed with the exception of moving the ink cartridge to an ink cartridge replacement position if a cartridge replacement instruction is entered.

Myung discloses that it is known in the art to move a cartridge to a replacement position when a user pushes a key for cartridge replacement (column 5, lines 35-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cook in accordance with this teaching of Myung. The reason for performing the modification would have been to facilitate replacement of an ink cartridge by moving it to a location which is accessible to the user.

5. Claims 4-6, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook in view of Keeling et al. (U.S. 5,455,606) and Bullock (U.S. 5,699,091).

Cook discloses an ink jet recording apparatus comprising an ink jet recording head (2) for receiving supply of ink from an ink cartridge (8) provided with storage means (12) storing data, and control means (36) for driving the recording head based on the data in the storage means, the recording apparatus further comprising:

print control means (36) which reads data from the storage means of the ink cartridge to determine compatibility when the ink cartridge is mounted;

wherein the storage means stores an optimum drive condition for an ink cartridge and ink information for the ink cartridge (column 7, lines 5-16).

With regards to claims 16-17, Cook discloses a method of determining compatibility of ink based on data stored in storage means of an ink cartridge for supplying ink to a recording head of an ink jet recording apparatus, the method comprising the steps of:

reading data from the storage means of the ink cartridge to determine compatibility of the ink cartridge;

generating a caution if compatibility to an ink cartridge cannot be confirmed when the cartridge is mounted; and

awaiting input of a continuation instruction by a user to execute a subsequent operation (fig. 3, column 8, lines 46-50).

Cook does not expressly disclose controlling the ink jet recording head based on the data in the storage means and update data storage means in the controller, the update data storage means being updated with data stored in the ink cartridge storage means. Additionally, Cook does not disclose selecting default settings if the compatibility cannot be determined.

However, Bullock et al. disclose controlling an ink jet recording head based on data in an update data storage means. A controller may update its control parameters and control print operations in accordance with data stored in a cartridge storage means (column 6, lines 25-27 and 50-55).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Bullock et al. into the invention of Cook. The reason for performing the modification would have been to facilitate more accurate control of printing parameters in accordance with cartridge type to prevent variations in print quality (column 6, lines 44-50).

Keeling et al. teaches that if information is not available regarding a recording unit, default values are used which approximate the expected values (column 11, lines 60-66).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the selection of default values as taught by Keeling et al. into the invention of Cook as modified. The reason for performing the modification would have been to enable printing to continue when recording unit information cannot be obtained through the use of default values which provide a best approximation.

6. Claims 9-11, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook in view of Cowger.

With regards to claims 9-11, Cook discloses an ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing data for determining compatibility of ink based on the data in the storage means and executing print operation, wherein:

when the recording head is to be filled with ink after an ink cartridge is mounted, the control means determines compatibility of the ink cartridge based on the data from the storage means.

Cook does not disclose outputting data used as a guide for determining a compatible ink cartridge.

Cowger discloses outputting data used as a guide for determining a replaceable consumable compatible with a printing apparatus (column 2, lines 51-66).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cook to output data used as a guide for determining a compatible ink cartridge when an incompatible ink cartridge is determined. The reason for performing the modification would have been to facilitate operator selection of the proper replaceable ink cartridge in the printer (column 1, lines 22-30, column 2, lines 52-55 and column 3, lines 34-35).

7. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook in view of Hashimoto (U.S. 5,764,251) and Cowger (U.S. 6,102,508).

Cook discloses everything claimed with the exception of a means for determining a recording medium type.

Hashimoto discloses this (abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the recording medium type determination of Hashimoto into the invention of Cook. The reason for performing the modification would have been to optimize print settings based on recording media type.

Cook as modified does not disclose ensuring compatibility between a recording apparatus and a recording medium.

However, Cowger discloses that it is critical that a recording media be compatible with the type of recording unit used in the printing apparatus (column 1, lines 22-30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Cowger into the invention of Cook as modified. The reason for performing the modification would have been to provide high image quality.

Allowable Subject Matter

8. Claims 7-8 and 14 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

With regards to claim 7, the prior art of record does not disclose the general-purpose drive condition is set such that pressure for ejecting an ink droplet from the recording head is set larger than the optimum drive condition and that the record paper feed speed is set lower than the optimum drive condition.

With regards to claim 8, the prior art of record does not disclose a plurality of the general-purpose drive conditions provided so that reliable printing can be executed in association with the number or ratio of incompatible pieces of the attention ink information read from the storage element with respect to the normal setup range data.

With regards to claim 14, the prior art of record does not disclose determining compatibility of the mounted ink cartridge based on the data from the storage means when the mounted ink cartridge is to be replaced, and the control means outputs data

for specifying that the mounted ink cartridge is compatible (see page 29 of the specification).

Response to Arguments

9. Applicant's argument that Cook fails to anticipate the ink jet recording apparatus that allows a user to execute a subsequent printing operation even when compatibility of an ink cartridge cannot be confirmed when the ink cartridge is mounted is not persuasive. Cook discloses a flowchart of print operations in fig. 3, at step 70, if the cartridge is not compatible, user input is requested and if the user does not reject the cartridge, control is released to step 65, the idle step, in which, as described in the figure and the specification at column 8, lines 57-59, the process awaits the initiation of an ink transfer while other printing operations continue.

Applicant's argument that Keeling selects default values for a compatible cartridge and not an incompatible cartridge is not persuasive. Cook discloses storing an optimum drive condition for an ink cartridge and ink information for the ink cartridge (column 7, lines 5-16). Obviously, in the invention of Cook, if the data regarding an optimum drive condition and ink information cannot be obtained, the cartridge will be judged as incompatible. Keeling discloses that if optimum drive conditions for a cartridge cannot be obtained, default values are selected. Thus the prior art as a whole suggest selecting default values for an incompatible cartridge. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA

1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Further, Keeling does not disclose if the cartridge is compatible or not. Additionally, applicant's argument that Cook does not execute a printing operation when an incompatible ink cartridge is used is not persuasive as discussed above and thus Cook does not teach away from the combination.

In response to applicant's arguments against the Cook and Cowger references, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Further, applicant's argument that one skilled in the art would not have been motivated to combine Cowger and Cook since both offer distinct complete approaches is not persuasive as applicant's arguments are directed towards limitations not present in claims 12-13. Cowger was merely cited in the rejection of claims 12 and 13 to support determining compatibility between a recording apparatus and a record medium.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's additional arguments are moot in view of the new grounds of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (703) 308-6556. The examiner can normally be reached on Monday through Friday from 9:30 a.m. to 6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow, can be reached at (703) 308-3126. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722. Faxes requiring the immediate attention of the examiner may be sent directly to the examiner at (703) 746-4386. Note that this number will not automatically send a confirmation that the fax was received.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JH

October 31, 2002


CRAIG HALLACHER
PRIMARY EXAMINER